



Impact of temperature on childhood pneumonia estimated from satellite remote sensing

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Abstract:

The effect of temperature on childhood pneumonia in subtropical regions is largely unknown so far. This study examined the impact of temperature on childhood pneumonia in Brisbane, Australia. A quasi-Poisson generalized linear model combined with a distributed lag non-linear model was used to quantify the main effect of temperature on emergency department visits (EDVs) for childhood pneumonia in Brisbane from 2001 to 2010. The model residuals were checked to identify added effects due to heat waves or cold spells. Both high and low temperatures were associated with an increase in EDVs for childhood pneumonia. Children aged 2-5 years, and female children were particularly vulnerable to the impacts of heat and cold, and Indigenous children were sensitive to heat. Heat waves and cold spells had significant added effects on childhood pneumonia, and the magnitude of these effects increased with intensity and duration. There were changes over time in both the main and added effects of temperature on childhood pneumonia. Children, especially those female and Indigenous, should be particularly protected from extreme temperatures. Future development of early warning systems should take the change over time in the impact of temperature on children's health into account.

Source: <http://dx.doi.org/10.1016/j.envres.2014.04.021>

Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Precipitation, Temperature

Air Pollution: Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): NO₂

Geographic Feature:

resource focuses on specific type of geography

Climate Change and Human Health Literature Portal

Other Geographical Feature

Other Geographical Feature : Sub-tropical

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Bronchitis/Pneumonia

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☒

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status, Racial/Ethnic Subgroup

Other Racial/Ethnic Subgroup: Indigenous people

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content